

***Opuntia* Nursery Stock Pathway Analysis**

Los viveros de Opuntia como posible vía de dispersión

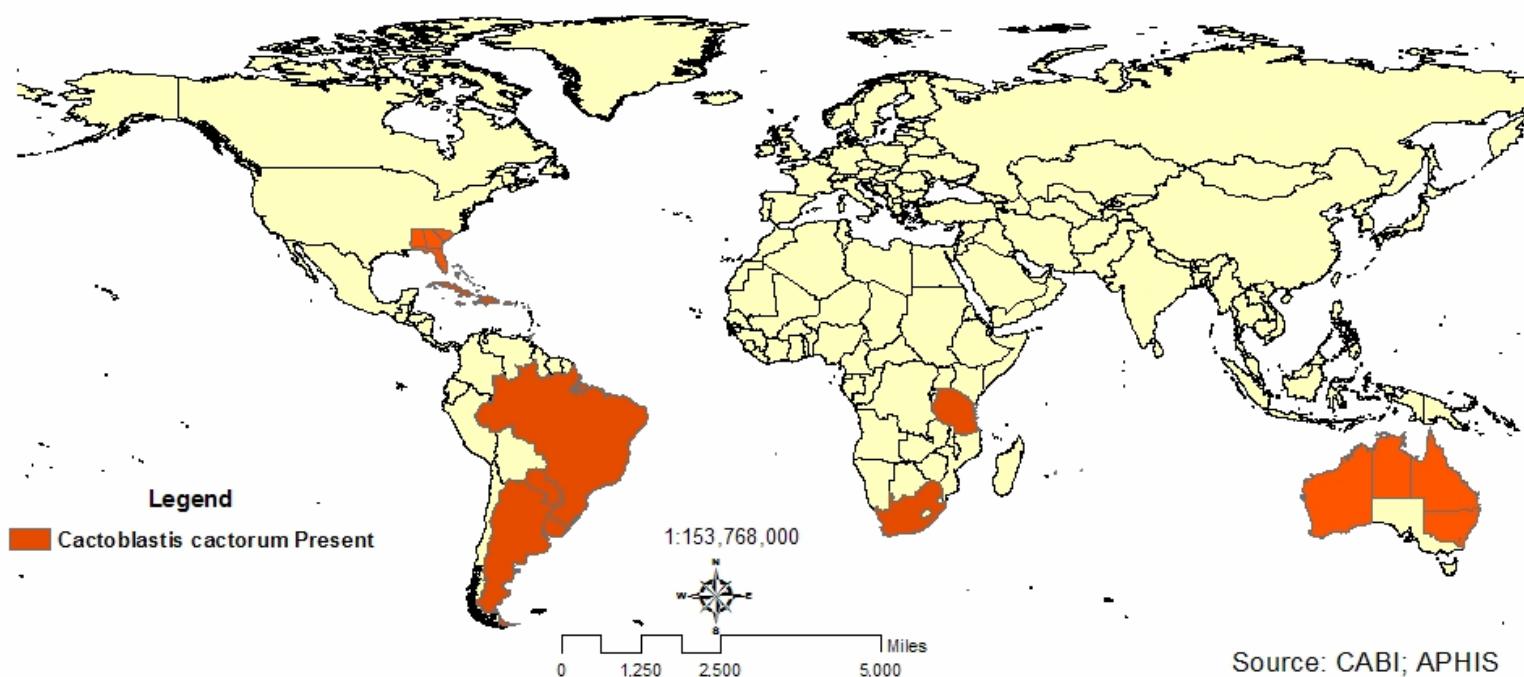


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Opuntia Nursery Stock Pathway Analysis

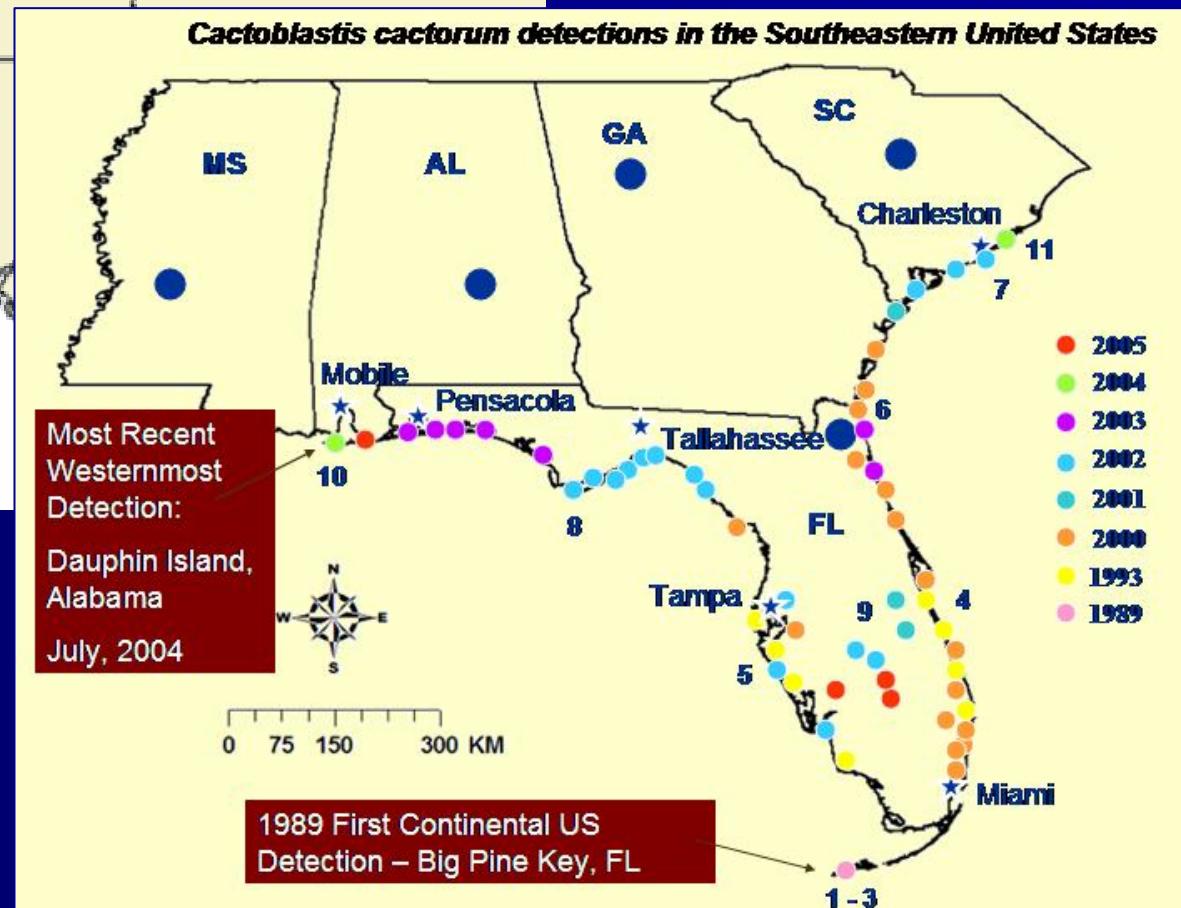
Cactoblastis cactorum worldwide distribution



Source: CABI; APHIS
USDA-APHIS-CPHST
GCS-WGS-1984
Created by: D. Borchert
Raleigh, NC
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Cactoblastis cactorum movement in the United States

ALABAMA



USDA Objective for *Cactoblastis cactorum*



USDA AQAS PestID records

(Agricultural Quarantine Activity Systems)

pests intercepted from *Opuntia* & *Nopalea*: 1985 - 2006

records	pests	species	# <i>Cactoblastis</i> intercepted
730	4,317	<i>Opuntia</i> sp.	11 records 26 specimens
10	11	<i>O. ficus-indica</i>	0
1	1	<i>O. quatica</i>	0
15	15	<i>O. tuna</i>	0
11	12	<i>O. vulgaris</i>	0
25	26	<i>Nopalea</i> sp.	0
8	8	<i>N. cochenillifera</i>	0

USDA AQAS PestID records

(origins of *Cactoblastis* intercepted on *Opuntia*)

pests intercepted on *Opuntia* & *Nopalea*: 1985 - 2006

Origin	<i>Cactoblastis</i> sp.	<i>C. cactorum</i>
Dominican Republic	3	4
Hawaii	0	13
Puerto Rico	0	4
unknown	1	1
Totals	4	22

USDA AQAS PestID records

(destinations of pests intercepted on *Opuntia*)

pests intercepted on *Opuntia & Nopalea*: 1985 - 2006

State	<i>Cactoblastis</i> sp.	<i>C. cactorum</i>
California	0	10
Colorado	0	1
Florida	2	6
New Jersey	0	1
New York	0	3
Texas	1	1
unknown	1	0
Totals	4	22

***Opuntia/Cactoblastis* Search nurseries, internet sales, & eBay®**

First quarter 2007

- 1. Visits & inspections**
- 2. Searches for *Opuntia***
- 3. Pathways for moving *Cactoblastis***
- 4. Potential mitigations**

Nursery and Natural Area survey of Florida spring 2007

- 1. Shade house nursery**
- 2. Outdoor nursery**
- 3. Nursery outdoor landscaping**
- 4. Discarded pots with *Opuntia***
- 5. Natural area near shade house**
- 6. Natural area distant from nursery**

Opuntia Survey of Florida nursery and natural areas

Shade house nursery

1. No *Cactoblastis* detected
2. Regular spray schedules
3. 2 – 3 month plant/ship interval
4. Sales to East Coast, Midwest, & Texas



Opuntia Survey of Florida nursery and natural areas

Outdoor nursery

1. All life stages observed



2. Mitigation needed for safe shipping
outside Florida & Georgia
(& areas of Alabama or South Carolina)



Opuntia Survey of Florida nursery and natural areas

Discarded pots with *Opuntia*

1. Located near door to shade house
2. Larvae and pupae found
3. Plants not used for stock/sales
4. Recommendation to bury or burn
Opuntia and use other genera

Opuntia Survey of Florida nursery and natural areas

Natural area near shade house

1. *Opuntia* garden near entrance
2. Not routinely inspected/treated
3. Larvae found
4. Recommendation to bury or burn
Opuntia and use other genera

Opuntia Survey of Florida nursery and natural areas

Natural area distant from nursery

1. Low density of *Opuntia*
2. Native cactus borer found:

Rumatha glaucaella →



3. Cactus bug found:

Chelinidia vittiger aequoris



4. No *Cactoblastis* found

5. *Cactoblastis* presence
may be host density dependent

Nurseries offering *Opuntia* for sale online via Google® search

Search term(s)	additional terms
1. <i>Opuntia</i>	1. for sale
2. prickly pear	2. cactus
3. pricklypear	3. cacti
4. nopal	4. tuna
5. nopales	
6. nopalitos	
7. cladodes	

Nurseries offering *Opuntia* for sale online via Google® search

State	nurseries	State	nurseries
Arizona	14	North Carolina	1
California	23	Ohio	2
Colorado	1	Oklahoma	1
Florida	4	Oregon	3
Illinois	1	Tennessee	1
Nevada	3	Texas	2
New Jersey	2	Washington	1
New Mexico	2	Wisconsin	2

Florida = 4/63; ~6 per cent;
AL, GA, SC – no nurseries advertised

Opuntia sales via eBay®

Search terms

1. *Opuntia*
2. **prickly pear** (vernacular usage)
3. **pricklypear** (PLANTS database usage)
4. **nopal**
5. **nopales**
6. **nopalitos**
7. **tuna** (no relevant hits; too many fish)
8. **cladodes** (no relevant hits)

Opuntia sales via eBay®

Search terms	Results
1. prickly pear*	1. 93
2. <i>Opuntia</i>*	2. 40
3. nopal	3. 7
4. nopales	4. 1
5. nopalitos	5. 0
6. pricklypear	6. 0

Florida & Georgia = 3/~110*; ~3 per cent;
no auctions listed for Alabama, South Carolina
*prickly pear/*Opuntia* auctions overlapped

***Opuntia* sales via eBay®**

1. **Auctions run for 3 to 10 days on average**
2. **Millions of auctions daily; 24/7/365**
3. **Auction numbers changed during search**
4. **Florida cities = Sarasota, Starke**
5. **Georgia city = not given**
6. ***North Carolina cities = Henderson,
Salisbury**
7. **~50% of *Opuntia* auctions from Scottsdale,
AZ (one seller)**

***Opuntia* Nursery Stock Pathway Analysis**

Recommendations & Mitigations

Nurseries:

- 1. No shipment outside quarantine area**
- 2. Production only within shade house**
- 3. Shade house treatment schedule: ~21 day intervals**
- 4. *Opuntia* isolated on separate bench**
- 5. Removal of outdoor *Opuntia***
- 6. “cactus garden” assortments treated**
- 7. Online (www) sales restricted**
- 8. eBay® sales monitored and restricted**
(if seller is located in FL or GA; no auctions for AL & SC)

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Questions?

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